

A. § 103 REJECTIONS (Subset 1)

Claims 1-7, 10, 22-28, 32, and 52-59 were rejected under § 103 on the basis of Jones [U.S.Pat. No. 4,114,804] and DiBlasio [U.S.Pat. No. 4,313,598]. Additionally, it appears that the Examiner also rejected claim 50 on the same ground. The applicant respectfully traverses these rejections.

1. Claims 1 and 22

With respect to claims 1 and 22, the Examiner stated that Jones discloses "means for detecting light reflected by said document and generating an output signal responsive to the reflected light." The applicant respectfully traverses this assertion for at least two reasons: (1) the applicant believes this assertion improperly characterizes the disclosure of Jones and (2) even if Jones were to disclose what is asserted by the Examiner, Jones would still not teach or suggest the invention of these claims since a limitation contained within these claims has been inadvertently overlooked by the Examiner.

First of all, the applicant maintains that Jones does not disclose "means for detecting light reflected by said document and generating an output signal responsive to the reflected light" as asserted by the Examiner. For the above proposition, the Examiner points to Fig. 1c, it. 73; col. 5, lines 34-42 and col. 6, lines 38-48 of Jones. Rather than disclosing a means for detecting reflected light, sensor 73 of Jones clearly is used to detect emitted fluorescent light. See col. 5, line 34 ("A fluorescence detector element 73") and col. 6, line 35 ("FLUORESCENCE DETECTION"). This is further evident from the fact

that the light source that illuminates the document in Jones is an ultraviolet light. See Fig. 1c, it. 71 and col. 5, line 20.

Secondly, claims 1 and 22 require "detecting ultraviolet light reflected" and "an ultraviolet light detector for generating an output signal responsive to ultraviolet light reflected by said document," respectively. In pointing to Jones, the Examiner has inadvertently overlooked the limitation that "ultraviolet" light is being detected. Reviewing sensor 73 of Jones and the text cited with respect thereto, it becomes clear that Jones does not detect ultraviolet light, but rather detects blue light. See Fig. 1c, filter 74 and col. 5, lines 35-36 ("a filter 74 which passes only blue light") and col. 6, lines 44-46 ("dark blue filter 74 is positioned in front of the element 73 to pass light of the order of 4500 Angstroms, while blocking the passage to light of other wavelengths").

Accordingly, Jones merely provides an example of a prior art fluorescent detecting device. See the background of the specification of the present application at page 2, lines 9-15 ("It has been known that the illumination of certain substances with ultraviolet light causes the substances to fluoresce, that is, to emit visible light.... Previous methods have been developed to authenticate such documents by sensing the fluorescent light emitted by a document illuminated by ultraviolet light").

The Examiner then states that "Although Jones et al does not explicitly teaches [sic] that the sensor 73 is an ultraviolet sensor for detecting ultraviolet light reflected from the bill. DiBlasio teaches at column 5, lines 5-25 that an ultraviolet sensor is used to detect ultraviolet light reflected from an irradiated document." The applicant traverses this statement. Not only does Jones "not explicitly teach[] that the sensor 73 is an ultraviolet

sensor for detecting ultraviolet light reflected from the bill” as stated by the Examiner, Jones explicitly teaches that sensor 73 is not an ultraviolet sensor that is used to detect ultraviolet light reflected from a bill. Rather sensor 73 is used to detect dark blue light and not ultraviolet light as outlined above.

Turning to DiBlasio the Examiner points to column 5, lines 5-25 as teaching an ultraviolet sensor used to detect ultraviolet light reflected from an irradiated document. The Examiner then states that “It would have been obvious to one of ordinary skill in the art to substitute the sensor 73 in Jones et al’s device with the ultraviolet sensor taught by DiBlasio in order to detect ultraviolet light reflected from authentic paper currency since DiBlasio suggests at column 5, lines 21-25 that the wavelength of light emitted from an authentic piece of paper currency is different from the wavelength of light emitted from nonauthentic paper currency” (underlining added). The applicant traverses these assertions for the following reasons.

One of ordinary skill in the art would interpret column 5, lines 11-28 of DiBlasio as discussing a fluorescence test. While a portion of this section of the specification does state the apparatus may be provided with means which includes “an ultraviolet lamp source and a cooperating ultraviolet sensor for detecting ultraviolet light reflected from an irradiated document,” one skilled in the art would nonetheless interpret this as referring to the detection of fluorescent light emitted from a document rather than ultraviolet light reflected from a document. There are several reasons why one skilled in the art would interpret this section as discussing a fluorescent test.

The above phrase must be read in the context of the entire paragraph in which it appears. One skilled in the art reading this paragraph would interpret the above quoted phrase as referring to a fluorescent test given that (1) the cross-reference to the Jones patent and (2) the next sentence both are clearly discussing a fluorescent test.

The immediately following sentence states "For purposes of the present invention, it is sufficient to understand that the wavelength of light emitted from an authentic piece of paper currency is different from the wavelength of light emitted from nonauthentic paper currency." Thus DiBlasio is teaching that one skilled in the art should focus on the difference between the wavelength of light emitted from currency bills. Fluorescent light is emitted from documents under ultraviolet illumination. Ultraviolet light is not emitted from documents under ultraviolet illumination. Thus this sentence is directing one skilled in the art to a fluorescent test.

Turning to the cross-reference, immediately after mentioning ultraviolet light reflected, DiBlasio directs one skilled in the art to the Jones patent for further details, "as described in co-pending application, Ser. No. 711,436, filed Aug. 4, 1976, now U.S. Pat. No. 4,114,804 issued Sept. 19 1978." Accordingly, DiBlasio teaches that what he is referring to is discussed in more detail in the Jones patent and that one should look there to learn about the test to which he is referring. As discussed above and as is clear from the Jones patent, the Jones patent teaches a fluorescent test in which a bill is illuminated with ultraviolet light and it is determined whether dark blue light is emitted from the bill. Accordingly, one skilled in the art would interpret the paragraph cited by the Examiner in DiBlasio as referring to the use of a fluorescent test to authenticate documents.

Furthermore, that the phrase “ultraviolet sensor for detecting ultraviolet light reflected” in DiBlasio refers to a fluorescent test is clear from the use of the same language in claim 2 of Jones to describe a fluorescent test. More specifically claim 2 of Jones states in part:

a source of ultraviolet light positioned to illuminate the currency moving towards
said stacker means;
first detector means positioned to receive only that that reflected from the currency;
said first detector means including filter means for permitting only that light of a
predetermined wavelength determined by said filter means to activate said first
detector means;
said filter means being a dark blue filter.

(underlining added). This language makes it clear that when the patents refer to “reflected light” they mean emitted fluorescent light, not reflected ultraviolet light as used in the present application.

Accordingly, the cross-reference to the Jones patent and the discussion concerning emitted light in the immediately following sentence make it abundantly clear that DiBlasio is discussing a fluorescent test in the paragraph cited by the Examiner. Accordingly, the applicant maintains that claims 1 and 22 are clearly allowable over Jones, DiBlasio, and the combination of Jones and DiBlasio.

2. Claims 2-5, 23-26, and 52-58

With respect to claims 2-5, 23-26, and 52-58, the Examiner points to col. 6, lines 38-48 of Jones. This part of the specification of Jones appears to describe the fluorescent detector 73 as having two states, a high impedance state and a low impedance state depending on whether fluorescent light is absent or present.

This rejection is respectfully traversed. Claims 2-5, 23-26, and 52-58 all relate to the detection of "ultraviolet light reflected" from a document. This feature is clearly not taught by Jones. Furthermore, with respect to claims 3, 24, 54, 55, and 58 the cited passage of Jones contains no teaching with respect to the detection of "a pattern of ultraviolet light reflected." With respect to claims 4-5 and 25-26, the cited passage of Jones contains no teaching with respect to the detection of "the amount of ultraviolet light reflected from one or more areas of said document."

Accordingly, the applicant maintains that claims 2-5, 23-26, and 52-58 are clearly allowable over Jones, DiBlasio, and the combination thereof.

3. Claims 6 and 27

With respect to claims 6 and 27, the Examiner points to col. 6, lines 15-25 of Jones. In this regard, the Examiner states that this part of the disclosure of Jones teaches that "the document is United States currency."

This rejection is respectfully traversed for at least two reasons. First of all, there is no teaching with respect to the detection of "ultraviolet light reflected". Secondly, there is nothing teaching the authentication test recited in these claims, namely, "wherein a negative determination of authenticity is made regarding said document if a relatively high amount of ultraviolet light is not reflected from said document;" a limitation that the Examiner has inadvertently overlooked.

Accordingly, the applicant maintains that claims 6 and 27 are clearly allowable over Jones, DiBlasio, and the combination thereof.

4. Claims 7 and 28

With respect to claims 7 and 28, the Examiner points to col. 5, lines 34-42 of Jones. In this regard, the Examiner states that this part of the disclosure of Jones teaches use of "filter 74 for filtering the reflected light."

This rejection is respectfully traversed. The applicant agrees with the Examiner that this part of the specification teaches using a filter to filter light. However, this part of the specification clearly teaches using a blue filter to screen out all light except blue light. See col. 5, line 35-42 ("a filter 74 which passes only blue light..."). In this regard, the Examiner has apparently overlooked the limitation of claims 7 and 28 relating to the use of an "ultraviolet" filter.

Accordingly, the applicant maintains that claims 7 and 28 are clearly allowable over Jones, DiBlasio, and the combination thereof.

5. Claims 10 and 32

With respect to claims 10 and 32, the Examiner points to col. 5, lines 34-42 of Jones. In this regard, the Examiner states that this part of the disclosure of Jones teaches that "the pass band of the filter is quite narrow, thus the filter is not sensitive to light having wavelength much longer than 450 nm which meets the claim limitation."

This rejection is respectfully traversed. The applicant agrees with the Examiner that this part of the specification teaches using a filter with a narrow pass band about 450 nm and that the disclosed filter would not pass light having a wavelength "much longer

than 450 nm." By the same token, it is clear that the disclosed filter is designed not to pass light having a wavelength much less than 450 nm. That being said, it is clear that this passage does not teach what is being claimed in claims 10 and 32, namely, the use of "a detector which is not sensitive to light having a wavelength longer than 400 nm."

Accordingly, the applicant maintains that claims 10 and 32 are clearly allowable over Jones, DiBlasio, and the combination thereof.

6. Claim 50

With respect to claim 50, the Examiner points to col. 5, lines 3-17 of Jones. In this regard, the Examiner states that this part of the disclosure of Jones teaches "means for selectively activating the device."

This rejection is respectfully traversed. The applicant maintains that claim 50 is clearly allowable over Jones, DiBlasio, and the combination thereof at least for the reasons set forth with respect to claims 1 and 22.

B. § 103 REJECTIONS (Subset 2)

Claims 8, 9, and 29-31 were rejected under § 103 on the basis of Jones, DiBlasio, and Cooper [U.S. Pat. No. 3,618,765]. In this regard the Examiner, states that "Jones et al and DiBlasio discloses the claimed invention except for the filter which filters out light having wavelength longer than 400 nm." The Examiner asserts that the ultraviolet sensor taught by DiBlasio inherently includes a filter to pass ultraviolet light, although DiBlasio does not specify wavelength ranges of the ultraviolet light. The Examiner then asserts that

the wavelength ranges of the ultraviolet light is well known in the art as evidenced by Cooper et al. The Examiner states Cooper teaches at column 2, lines 4-9 the use of a filter that filters out light having wavelength longer than 400 nm. The Examiner then asserts that it would have been obvious to use the filter as taught by Cooper in the ultraviolet light sensor taught by DiBlasio.

The applicant respectfully traverses the rejection of claims 8, 9, and 29-31 based on Jones, DiBlasio, and Cooper. Cooper essentially discloses an authenticating system similar to Jones except that in Cooper the detector is a human eye while in Jones an electronic detector is provided. In both, a document is illuminated with ultraviolet light, and it is determined whether blue light is emitted. As discussed above, in Jones it is abundantly clear that only blue light is being detected and not ultraviolet light as is evidenced by the presence of the blue filter 74 between the document and the detector 73. Likewise, in Cooper, a blue filter 18 and 18' is positioned between the document and the detector, namely, the eye of the person operating the device of Cooper. That ultraviolet light is not being detected in Cooper is additionally abundantly clear since the detector in the Cooper device, namely, a human eye, can not detect ultraviolet light (that is, ultraviolet light is not visible to the human eye).

The portion of the specification in Cooper referred to by the Examiner is directed to providing an ultraviolet light source. An ultraviolet filter is provided about the ultraviolet light source 16 to ensure that the light source only provides ultraviolet light. See Cooper col. 2, lines 39-41. Significantly, the ultraviolet filter described in Cooper is not used in

the detecting step. If it were, the operator of the Cooper device would not be able to detect anything since the human eye can not detect ultraviolet light.

Furthermore, the assertion that the ultraviolet sensor taught by DiBlasio inherently includes a filter to pass ultraviolet light is traversed because (1) as outlined above the sensor of DiBlasio is a fluorescence detector and (2) there is no basis to assert that such a filter would be inherently present as DiBlasio neither discloses or suggests such a feature.

Accordingly, there is no teaching or suggestion in Jones or DiBlasio or Cooper or the combination of Jones, DiBlasio, and Cooper for the inventions of claims 8, 9, and 29-31 at least for the reason that there is no teaching or suggestion of, for example, the limitation of claim 8 that "said detecting step further comprises the step of filtering out light having a wavelength longer than 400 nm", the limitations of claim 9 of filtering out light "having a wavelength shorter than about 260 nm ... and longer than about 380 nm," and the limitation of claim 29 that "light from said bill passes through said first filter before striking said photodetector; said first filter filtering out light having a wavelength longer than 400 nm." Thus the applicant maintains that claims 8, 9, and 29-31 are allowable over the combination of Jones, DiBlasio, and Cooper.

C. CLAIMS INDICATED AS ALLOWABLE

Claims 11-21, 33-49 and 51 were indicated as allowable.

D. NEW CLAIMS

New claims 60-72 have been added. These claims are allowable at least for the reasons addressed above.

In view of the above amendments and remarks, the pending claims are believed to be in allowable form and favorable reconsideration of this application is respectfully requested.

A check for \$498.00 is enclosed for the amended and additional claims. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 01-2508, Order No. CUMM:115.

Respectfully submitted,



Paul R. Kitch
Reg. No. 38,206
Arnold, White & Durkee
P.O. Box 4433
Houston, Texas 77210
312/744-0090
Attorneys for Applicant